

CEOS WSSD FOLLOW-UP PROGRAMME

Preamble

The current document describes the CEOS WSSD Follow-up Programme, which was adopted by the CEOS Members and Associates at the 16th CEOS Plenary held at ESRIN Frascati on 20-21 November 2002. The document has been updated according to the agreement reached at the CEOS Plenary, supplemented by further updates received as of 7th February 2003.

The current final document serves as reference document to describe the CEOS WSSD Follow-up Programme.

1 WSSD – The political context

The Johannesburg Declaration on Sustainable Development, adopted by Heads of States and Governments, has given a major political impulse to the implementation of Agenda 21 agreed to at the UN Conference on Environment and Development held in Rio in 1992. In Johannesburg, Heads of States and Governments committed to the *Plan of Implementation* for Agenda 21, integrating the three pillars of sustainable development - economic development, social development and environmental protection - at local, national, regional and global levels.

The *Plan of Implementation* is the result of an unprecedented consultation effort, under the coordination of the United Nations, of a wide range of stakeholders committed to sustainable development, including national governments, intergovernmental and non-governmental organisations (IGOs and NGOs) and the major groups identified in Agenda 21. The *Political Declaration* and the *Plan of Implementation* are both addressing major issues humanity is facing, such as poverty, food security, desertification, environment degradation, loss of biodiversity, and climate change, which are aggravated by an increase of the world's population from today's 6 billion people to 9 billion by 2050. The two documents further refer to the use of modern technology, capacity building, education and training as a means to banish underdevelopment.

2 CEOS Presence at WSSD

The 15th CEOS Plenary in Kyoto in November 2001 focused CEOS members in making the World Summit for Sustainable Development (WSSD) one of CEOS' priorities. Consequently, CEOS Members and Associates expended a considerable amount of effort in preparing for, and attending, the World Summit on Sustainable Development (WSSD).

ESA, representing CEOS as its chair agency during 2002, obtained accreditation at the WSSD Summit and its preparatory meetings (PrepComs) as an intergovernmental organisation (IGO) and, as such, received 'observer' status. This allowed full participation in all plenary debates and public side meetings. CEOS delivered official statements at the PrepCom meetings in Jan/Feb 2002 (New York), Mar/Apr 2002 (New York), May/Jun 2002 (Bali), and at the Summit itself (26 Aug – 4 Sep 2002 in Johannesburg). The CEOS statements were

coordinated with CEOS Principals, who themselves solicited support from their respective national delegations to introduce space-related language into the WSSD negotiation papers.

In addition, CEOS and its Members and Associates pursued a number of activities in order to inform delegates of the potential of Earth observation for various aspects of sustainable development. This included, among others, the organisation of more than 10 Side Events and Parallel Events during the PrepComs and the Summit, a dedicated CEOS exhibition stand and exhibition stands of CEOS agencies at the Summit, and WSSD publications (Sustainable Development – The Space Contribution, WSSD Fact Sheets, CEOS Handbook, CEOS and IGOS Newsletters), among others.

CEOS closely coordinated its activities with the Integrated Global Observing Strategy (IGOS) and established a working model for continuing to collaborate on WSSD activities. In that regard, a number of activities were carried out jointly, such as Side Events, Parallel Events, and interventions at the WSSD Plenary.

3 WSSD Outcome Related to Space

The conclusions of the World Summit are contained in two main documents, the *Johannesburg Political Declaration* and a *WSSD Plan of Implementation* (see www.johannesburgsummit.org). The contribution of space is particularly well covered as a primary source of information essential for sustainable development, resulting in 12 specific references to earth/global/satellite observations in the Plan of Implementation. For ease of reference, these are attached in Annex A.

4 The Development of a CEOS WSSD Follow-up Programme

The current WSSD Follow-up Programme is based on the assumption that CEOS take action in a number of fields, which were identified in the WSSD Plan of Implementation as areas where Earth observation plays an important role for sustainable development.

In setting up this mechanism of a CEOS WSSD Follow-up Programme, it is clearly understood that CEOS Members and Associates make contributions to WSSD implementation through their national authorities. Although this is outside the CEOS ambit, it is suggested that CEOS needs to be prepared, where appropriate, to act as coordinator, or at least as an information centre for the various actions and projects that could be expected to develop in the WSSD-related Earth observation domain.

4.1 A Modular Approach of the WSSD Follow-up Programme

In order to offer common visibility of the actions undertaken by CEOS Members and Associates in implementing certain elements of the World Summit's commitments, CEOS offers a framework for its Members and Associates under which Member and Associate actions can be launched. This CEOS WSSD Follow-up Programme includes new initiatives, as well as significant extensions of existing activities, which deal with issues related to the use of space technology for sustainable development. The CEOS WSSD Follow-up Programme is modular in structure, thus allowing evolution in time and geography. The programme is

based on voluntary contributions of CEOS Members and Associates, who subscribe to undertake responsibility (and commitments) for certain modules or elements of it.

The modular structure allows on one side preserving the identity of the individual contributions to maintain the visibility of a Member's specific action, while on the other side enabling a step-wise implementation of a larger overall activity. Regular reviews will help to coordinate individual commitments and exchange best practises on particular approaches.

4.2 Areas Covered in the WSSD Plan of Implementation

The topics which have a specific reference to earth observation in the WSSD Plan of Implementation are:

- Area 1 – Education, Training and Capacity Building
- Area 2 – Water Resources Management
- Area 3 – Disaster Management and Conflicts
- Area 4 – Climate Change
- Area 5 – Global Mapping, Land-use Monitoring and GIS

Areas 1 and 5 are of horizontal cross-cutting nature while Areas 2-4 are predominantly vertical and more independent of each other. There are, however, overlaps in application areas among all of the Modules. Other topics, such as food security, may draw on a number of areas listed above, but is not listed separately, since the direct reference to the use of space technology in the Plan of Implementation is missing.

AREA 1 - EDUCATION, TRAINING AND CAPACITY BUILDING

Area 1 is cross-cutting among Modules 2-5 and is based upon Articles 27, 35 (c), 36 (g), 59 (a), 104 (b), 119septies (a-c), 119octies (c) and 119noviens (b) of the WSSD Plan of Implementation. This Area addresses topics such as water resources management, disaster prevention and mitigation, climate change and environmental protection, among others.

AREA 2 – WATER RESOURCES MANAGEMENT

Area 2 is focuses on Art. 27 of the WSSD Plan of Implementation, which aims at improved water resource management and a better understanding of the water cycle.

AREA 3 – DISASTER MANAGEMENT AND CONFLICTS

In terms of disasters, Area 3 refers to Art. 35 (c), 59 (a), 119 noviens and 119 noviens (b) of the Plan of Implementation, which asks for integrated observations using satellite data for disaster management, prevention and assessment, including the development of early warning systems. The main issues include where earth observation can provide useful information are forest fires, floods, and to a certain extent, volcanic eruptions and earthquakes.

In terms of Conflicts, Area 3 relates to Art. 59 of the Plan of Implementation, which asks for financial and technical assistance to strengthen capacities of African countries for better disaster and conflict management. This includes humanitarian and environmental impacts of conflicts, and may, in practical terms, relate to the management and monitoring of refugee camps, support of antipersonnel-demeaning activities, and a better management of the access to natural resources such as water in case.

Disaster and conflicts are closely linked in certain aspects and benefit from a close coordination between their respective activities.

AREA 4 – CLIMATE CHANGE

Area 4 addresses in particular Art. 36, 36 (g) and 36 (h) of the WSSD Plan of Implementation, which focus on the impacts of global change on developing countries. The UNFCCC, and in particular the ratification of the Kyoto Protocol, is referred to as the primary instrument to address issues of climate change and minimise adverse impacts on developing countries including food production. The WSSD document asks to promote systematic observations of the Earth's atmosphere, land and oceans by improving monitoring stations, increasing the use of satellites and appropriate integration of these observations to produce high-quality data, which can be disseminated for the use of all countries, in particular developing countries.

AREA 5 – GLOBAL MAPPING, LAND-USE MONITORING AND GIS

Area 5 refers in particular to Art. 119 septies, 119 septies (c) and 119 octies (c), among others. Area 5 will provide basic data and information for all other modules, which deal with land-based applications. Concrete applications are cartography and land-use mapping.

Individual CEOS Members and Associates are already very active on a number of aspects related to Area 5. Almost all members are involved in extended land-use mapping programmes covering a variety of scales and projections and might therefore be able to widely contribute to a joint effort. The challenge is to develop standardised, comparable methods applicable at a global scale.

4.3 CEOS WSSD Follow-Up Programme Modules

Based on the Areas covered in the WSSD Plan of Implementation, CEOS may wish to engage itself on a certain, limited number of them. As a starting point, the following Areas are developed into WSSD Follow-up Programme Modules, where concrete action is planned within the frame of CEOS:

- Module 1 – Education, training and capacity building
- Module 2 – Water Resources Management
- Module 3 – Disaster Management and Conflicts
- Module 4 – Climate Change
- Module 5 – Global Mapping, Land Use Monitoring and GIS

MODULE 1 – EDUCATION, TRAINING AND CAPACITY BUILDING

Module 1 contains a key component of sustainable development, namely training local people in developing countries and adapting technology to their local environments. Within Module 1, participating CEOS Members and Associates will aim at coordinating these efforts to the maximum benefit of developing countries. Module 1 will cover education, training and capacity building activities *per se*, but also accompany other modules (e.g. Water Resources Management) throughout the programme cycle.

Concrete action will include, for example, the support of UN regional and national training facilities through the sponsorship of training courses, the provision of EO data for educational purposes, the development of curricula dealing with the use of satellite technology for sustainable development issues, and so on.

The WSSD Type-2 Partnership on Education and Training will be a primary partner in the implementation of this Module.

MODULE 2 – WATER RESOURCES MANAGEMENT

Water resources management has many facets, ranging from fresh water resources monitoring to desertification and food security. On many occasions, satellite data has proven to be a reliable data source for a better understanding of the various elements of the water cycle from local to continental to global scale.

CEOS Members and Associates shall focus their action on the use of satellite technology on issues such as water management, aquifer monitoring, drought and desertification monitoring, vegetation cover changes and their impact on the water cycle.

The Integrated Global Observing Strategy (IGOS) Water Cycle Theme is a key partner to coordinate with during the implementation of this Module.

4.4 Implementing Arrangements

A WSSD Follow-up Programme Team was established to focus on CEOS Members' and Associates' sustainable development activities in the areas mentioned above.

The Team comprises representatives from CEOS Members and Associates who have expressed their interest to lead and participate in the WSSD Follow-up Programme activities.

The CEOS WSSD Follow-up Team will organize its Module activities through the preparation of Module Plans for each Module and other documentation, and by arranging meetings, telecons and visits. The CEOS WSSD Follow-up Team will support the implementation of the Programme under the leadership of the CEOS Chair.

The CEOS Chair, advised and supported by the WSSD Follow-up Team, assures coordination of the contributions and an adequate exchange of information between the contributing

Partners. CEOS also acts as an interface between the space and the main non-space communities, for example vis-à-vis development banks and major NGOs. Further, the CEOS Chair solicits contributions from CEOS Members and Associates as (and if) appropriate.

Regular reviews at appropriate time periods are conducted in order to assure good coordination and cross-fertilisation between individual activities and Modules.

The geographic area covered by the current CEOS WSSD Follow-up Programme includes all developing countries with the African continent as an initial primary focus.

5 Time Schedule

The following time schedule is applies to the implementation of the CEOS WSSD Follow-up Programme:

19 Nov 2002	Presentation to, and discussion with, high-level WSSD Follow-up meeting participants in Frascati, Italy
20-21 Nov 2002	Discussion and approval of concept by CEOS Plenary Establishment of WSSD Follow-up team Identification of participation in and (co-)leadership of Programme Modules by CEOS Members and Associates
Jan 2003	Updating of current document based on discussion at CEOS Plenary Consolidation of Task Force Confirmation of participation in WSSD Follow-up Programme by CEOS partners
June 2003	Presentation to and discussion at IGSO-P
July 2003	First review by parties (CEOS, developing countries, financing institutions), chaired by CEOS Chair
Oct 2003	WSSD workshop/s in developing countries
Nov 2003/04/05	Yearly WSSD Follow-up Programme Reviews by CEOS Plenary
Nov 2005	Decision on revision/continuation of WSSD Follow-up Programme by CEOS Plenary

Annex A

Earth Observation references in WSSD Plan of Implementation



SPECIFIC REFERENCES TO EARTH OBSERVATION

WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT

PLAN OF IMPLEMENTATION

IV. Protecting and managing the natural resource base of economic and social development

27. Improve water resource management and scientific understanding of the water cycle through cooperation in joint observation and research, and for this purpose encourage and promote knowledge-sharing and provide capacity-building and the transfer of technology, as mutually agreed, including remote-sensing and satellite technologies, particularly to developing countries and countries with economies in transition.

* * *

35. An integrated, multi-hazard, inclusive approach to address vulnerability, risk assessment and disaster management, including prevention, mitigation, preparedness, response and recovery, is an essential element of a safer world in the twenty-first century. Actions are required at all levels to:

....

(c) Strengthen the institutional capacities of countries and promote international joint observation and research, through improved surface-based monitoring and increased use of satellite data, dissemination of technical and scientific knowledge, and the provision of assistance to vulnerable countries;

* * *

36. Change in the Earth's climate and its adverse effects are a common concern of humankind. We remain deeply concerned that all countries, particularly developing countries including the least developed countries and small island developing States, face increased risks of negative impacts of climate change and recognize that, in this context, the problems

of poverty, land degradation, access to water and food and human health remain at the centre of global attention. The United Nations Framework Convention on Climate Change is the key instrument for addressing climate change, a global concern, and we reaffirm our commitment to achieving its ultimate objective of stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner, in accordance with our common but differentiated responsibilities and respective capabilities. Recalling the United Nations Millennium Declaration, in which heads of State and Government resolved to make every effort to ensure the entry into force of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, preferably by the tenth anniversary of the United Nations Conference on Environment and Development in 2002, and to embark on the required reduction of emissions of greenhouse gases, States that have ratified the Kyoto Protocol strongly urge States that have not already done so to ratify the Kyoto Protocol in a timely manner. Actions at all levels are required to:

.....

(g) Promote the systematic observation of the Earth's atmosphere, land and oceans by improving monitoring stations, increasing the use of satellites, and appropriate integration of these observations to produce high-quality data that could be disseminated for the use of all countries, in particular developing countries;

(h) Enhance the implementation of national, regional and international strategies to monitor the Earth's atmosphere, land and oceans including, as appropriate, strategies for integrated global observations, inter alia with the cooperation of relevant international organisations, especially the United Nations specialized agencies in cooperation with the UNFCCC;

VIII. Sustainable development for Africa

59. Deal effectively with natural disasters and conflicts, including their humanitarian and environmental impacts, recognizing that conflicts in Africa have hindered and in many cases obliterated both the gains and efforts aimed at sustainable development, with the most vulnerable members of society, particularly women and children, being the most impacted victims, through efforts and initiatives, at all levels, to:

(a) Provide financial and technical assistance to strengthen the capacities of African countries, including institutional and human capacity, including at the local level, for effective disaster management, including observation and early warning systems, assessments, prevention, preparedness, response and recovery;

IX. Means of implementation*

104. Assist developing countries, through international cooperation, in enhancing their capacity in their efforts to address issues pertaining to environmental protection including in their formulation and implementation of policies for environmental management and protection, including through urgent actions at all levels to:

....

* Because the structure of chapter IX was changed in the course of negotiations, so that its paragraph numbering no longer corresponds to the earlier version contained in document A/CONF.199/L.1, Latin ordinal numbers (bis, ter etc.) are used after paragraph 119 until the end of the chapter in order not to disrupt the paragraph numbering of the following chapter, which was not so changed.

(b) Promote and, where appropriate, improve their use of satellite technologies for quality data collection, verification and updating, and further improvement of aerial and ground-based observations, in support of their efforts to collect quality, accurate, long-term, consistent and reliable data;

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119.septies Promote the development and wider use of earth observation technologies, including satellite remote sensing, global mapping and geographic information systems, to collect quality data on environmental impacts, land use and land-use changes, including through urgent actions at all levels to:

(a) Strengthen cooperation and coordination among global observing systems and research programmes for integrated global observations, taking into account the need for building capacity and sharing of data from ground-based observations, satellite remote sensing and other sources among all countries;

(b) Develop information systems that make the sharing of valuable data possible, including the active exchange of Earth observation data;

(c) Encourage initiatives and partnerships for global mapping.

119.octies Support countries, particularly developing countries, in their national efforts to:

....

(b) Use satellite and remote-sensing technologies for data collection and further improvement of ground-based observations;

(c) Access, explore and use geographic information by utilizing the technologies of satellite remote sensing, satellite global positioning, mapping and geographic information systems.

119.noviens Support efforts to prevent and mitigate the impacts of natural disasters, including through urgent actions at all levels to:

....

(b) Translate available data, particularly from global meteorological observation systems, into timely and useful products.